

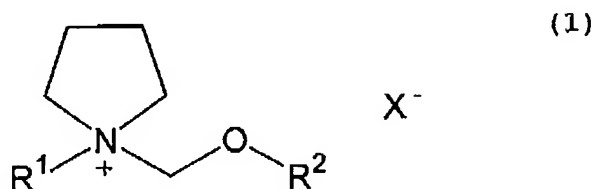
PATENT APPLN. NO. 10/563,125  
RESPONSE UNDER 37 C.F.R. §1.111

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NON-FINAL

IN THE CLAIMS:

1 -125. (canceled)

126. (previously presented) A quaternary ammonium salt of the formula (1)



wherein  $R^1 \sim R^2$  are methyl or ethyl, and  $X^-$  is  $BF_4^-$  or  $N(CF_3SO_2)_2^-$ , provided that  $R^1$  and  $R^2$  are not methyl simultaneously.

127 - 128. (canceled)

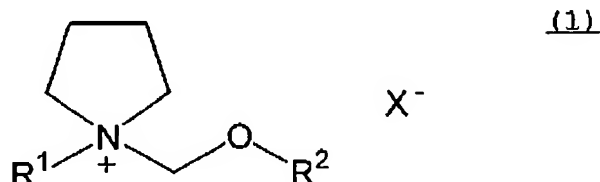
129. (previously presented) A quaternary ammonium salt according to claim 126 wherein  $R^1$  is methyl,  $R^2$  is ethyl, and  $X^-$  is  $BF_4^-$ .

130. (previously presented) A quaternary ammonium salt according to claim 126 wherein  $R^1$  is methyl,  $R^2$  is ethyl, and  $X^-$  is  $N(CF_3SO_2)_2^-$ .

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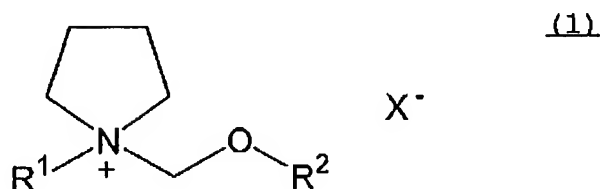
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131. (currently amended) A quaternary ammonium salt according  
~~to claim 126 of the formula (1)~~



wherein R<sup>1</sup> is ethyl, R<sup>2</sup> is methyl, and X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.

132. (currently amended) A quaternary ammonium salt according  
~~to claim 126 of the formula (1)~~



wherein R<sup>1</sup> is ethyl, R<sup>2</sup> is ethyl, and X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.

133. (withdrawn) A composition characterized in that the  
composition comprises the quaternary ammonium salt according to  
claim 126 and an organic solvent.

134. (withdrawn) A composition according to claim 133 which is  
characterized in that the organic solvent comprises one or at least

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two organic solvents selected from among cyclic carbonic acid esters, chain carbonic acid esters, nitrile compounds and sulfone compounds.

135. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent comprises one or at least two organic solvents selected from among propylene carbonate, dimethyl carbonate, ethylmethyl carbonate, acetonitrile and sulfolane.

136. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is propylene carbonate.

137. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is dimethyl carbonate.

138. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is ethylmethyl carbonate.

139. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is acetonitrile.

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140. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is a mixture of at least two organic solvents selected from among propylene carbonate, ethylene carbonate, dimethyl carbonate and ethylmethyl carbonate.

141. (withdrawn) A composition according to claim 133 which is characterized in that the organic solvent is an organic solvent mixture comprising dimethyl carbonate and ethylmethyl carbonate.

142. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 126.

143. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 127.

144. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 128.

145. (withdrawn) An electrolytic solution for use in

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electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 129.

146. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 130.

147. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the quaternary ammonium salt according to claim 131.

148. (withdrawn) An electrolytic solution for use in electrochemical devices which is characterized in that the solution contains the electrolyte according to claim 132.

149. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 142.

150. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 143.

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151. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 144.

152. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 145.

153. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 146.

154. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 147.

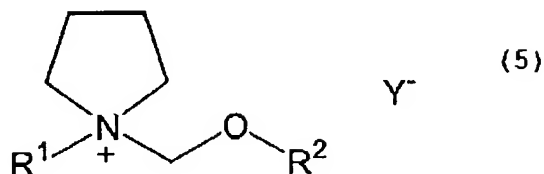
155. (withdrawn) An electrochemical device characterized in that the device comprises the electrolytic solution according to claim 148.

156. (withdrawn) A process for preparing a quaternary ammonium salt of the formula (1) comprising a step of reacting a quaternary

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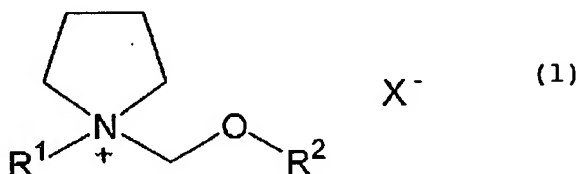
ammonium salt of the formula (5) and a compound of the formula (9)



wherein  $R^1 \sim R^2$  are methyl or ethyl, and  $Y^-$  is Cl, Br or I,

MX (9)

wherein M is a hydrogen atom, alkali metal, alkaline earth metal or metallic atom, and X is  $BF_4$  or  $N(CF_3SO_2)_2$



wherein  $R^1 \sim R^2$  and X are the same as above.

157. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is methyl,  $R^2$  is methyl, and  $X^-$  is  $BF_4^-$ .

158. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is methyl,  $R^2$  is methyl, and  $X^-$  is  $N(CF_3SO_2)_2^-$ .

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159. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is methyl,  $R^2$  is ethyl, and  $X^-$  is  $BF_4^-$ .

160. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is methyl,  $R^2$  is ethyl, and  $X^-$  is  $N(CF_3SO_2)_2^-$ .

161. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is ethyl,  $R^2$  is methyl, and  $X^-$  is  $BF_4^-$ .

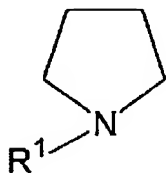
162. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 156 wherein  $R^1$  is ethyl,  $R^2$  is ethyl, and  $X^-$  is  $BF_4^-$ .

163. (withdrawn) A process for preparing a quaternary ammonium salt of the formula (1) comprising (a) a step of reacting an alkylpyrrolidine of the formula (7) and a compound of the formula (8) to obtain a quaternary ammonium salt of the formula (5), and



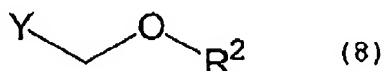
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(7)

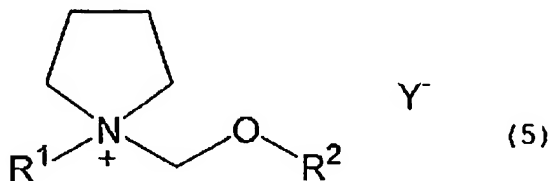
wherein R¹ are methyl or ethyl,



(8)

wherein R² are methyl or ethyl, and Y⁻ is Cl, Br or I,

(b) a step of reacting a quaternary ammonium salt of the formula (5)  
and a compound of the formula (9)



(5)

wherein R¹ ~ R² and Y are the same as above,

MX (9)

wherein M is a hydrogen atom, alkali metal, alkaline earth metal or metallic atom, and X is BF₄ or N(CF₃SO₂)₂.

164. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R¹ is methyl, R² is methyl, and

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X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.

165. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R<sup>1</sup> is methyl, R<sup>2</sup> is methyl, and X<sup>-</sup> is N(CF<sub>3</sub>SO<sub>2</sub>)<sub>2</sub><sup>-</sup>.

166. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R<sup>1</sup> is methyl, R<sup>2</sup> is ethyl, and X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.

167. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R<sup>1</sup> is methyl, R<sup>2</sup> is ethyl, and X<sup>-</sup> is N(CF<sub>3</sub>SO<sub>2</sub>)<sub>2</sub><sup>-</sup>.

168. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R<sup>1</sup> is ethyl, R<sup>2</sup> is methyl, and X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.

169. (withdrawn) A process for preparing a quaternary ammonium salt according to claim 163 wherein R<sup>1</sup> is ethyl, R<sup>2</sup> is ethyl, and X<sup>-</sup> is BF<sub>4</sub><sup>-</sup>.